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BACKGROUND STUDIES AS A BASIS FOR REGIONAL OUTLOOK STATEMENTS

With Special Reference to California

ELMER W. BRAUN

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Faculty of Political Science, Columbia University

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BACKGROUND STUDIES AS A BASIS FOR REGIONAL OUTLOOK STATEMENTS

WITH SPECIAL REFERENCE TO CALIFORNIA

I. *Introduction:*

The writer wishes herein to set forth the need for, the nature of, and basic analysis necessary for regional outlook statements for given agricultural commodities. An outlook statement as it is understood in the field of agricultural economics is a statement made prior to planting or breeding time indicating the price that is likely to prevail at the time the commodity under consideration will be ready for market.[1] Specific price predictions are not given but probable price trends that may be expected are almost always indicated, and are frequently accompanied by a description of the probable degree of change to be expected. The degree of change is described by such words as "slight," "material," "further," "high," "low," "reduced," and "increased." These price-trend predictions are made upon a careful appraisal of the demand and supply conditions pertaining to a given commodity in so far as such conditions can be quantitatively measured and evaluated at the time the statement is made. For example, the Federal Agricultural Outlook report for 1931 [2] in giving the outlook for wheat states, "The present very low level of wheat prices has brought into operation forces tending to cause an improvement, but despite this, another year of low prices is in prospect for 1931." This is followed by a highly condensed discussion of information on carryover, acreage, and production trends in principal producing areas, price spreads in their relation to exports and prospective use of wheat as feed for livestock. A similar procedure is followed in connection with statements dealing with other crops. The supply and demand factors pertaining to a given commodity are measured in so far as possible and a careful appraisal of these factors generally makes possible a reliable estimate as to the direction of a given price movement and some indication as to the degree of change through a given period.

The primary objective of agricultural outlook reports is, as Professor Tolley states,[3] ". . . to obtain and make available to farmers information that will be helpful to them in planning their production programs so as to obtain the greatest returns for their efforts and resources."

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1 United States Department of Agriculture. The Agricultural Outlook for 1927. Miscellaneous Circular 101; 1, February 1927.

2 United States Department of Agriculture, Miscellaneous publication 108:2. February, 1931.

3 Tolley, H. R., The History and Objective of Outlook Work. Journal of Farm Economics 8:4:523. October, 1931.

II. *Need for Regional Outlook Statements:*

A given farm operator either consciously or unconsciously chooses his enterprises and plans his production operations in such a manner as will in his opinion result in the largest net return in relation to his managerial capacity and the facilities at his disposal. With respect to his production plans for any given year a farmer has in general two decisions to make. If the farmer derives his income from more than one enterprise he must periodically decide upon the proportion or relative importance of these enterprises. In the case of annual field crops and livestock, he must do this at least annually. In connection with tree crops, this decision is less often required. The second decision has to do with the intensity of operations. This problem is almost constantly confronting the farmer. Should he intensify his operations with respect to certain enterprises and adopt less intensive methods with respect to others? Will it be to his advantage to operate all of his enterprises more intensively or less intensively in a given year? If so, to what degree? These questions are common to every type of farming whether it be livestock, field crops, tree crops, or truck crops. In the case of livestock and poultry, the problems of intensification revolve principally around the feeding and care of the animals or fowls; in field crops they revolve around cultivation and fertilization; in tree crops around tillage, fertilization, pruning, and thinning of fruit; and in the case of truck crops around tillage, fertilization and rotation. Disease control is common to all, and the intensity with which it should be carried on depends upon the probable net return attributable to it.

Specific application will help to clarify the two types of decisions; namely, those of proportionality of enterprises and intensity of cultivation. For example, should a grain farmer who is deriving his income from the production of wheat and barley in the Sacramento Valley of California, increase his wheat acreage and decrease his barley acreage or vice versa? Or should the proportion of wheat acreage to barley acreage remain unchanged as compared to the previous season? Secondly, should this grain grower till and fertilize more intensively in a given season or should he cultivate and fertilize less intensively? What should his policy be with reference to his summer fallow acreage? Logical decisions for questions such as these must be made in the light of probable costs to be incurred in relation to physical output and probable prices likely to be obtained for the products produced. If costs in relation to physical output and selling prices could be determined in advance, the operator would be in a position to determine his highest profit combination.[4] In actual fact it is very probable that the highest profit combination is seldom if ever achieved. This is due to various reasons. In most cases an analysis of the efficiency

[4] A very detailed and excellent theoretical discussion of the highest profit combination is given in Black, J. D. Introduction to Production Economics. Henry Holt and Company, New York. 1926. Pp. 335-380.

of past operations is not available and where such information is at hand, it cannot be accurately projected into the future because future costs and yields cannot be estimated with precision. Also it is impossible to estimate future prices with precision. Calculations which lead to an approximation of costs and approximation of price are helpful in guiding a given manager in approaching the highest profit combination more closely than would likely be attained without such calculations. Farmers are constantly striving to approach the highest profit combination for their farm, but due to lack of information and lack of control over natural conditions important mistakes are constantly being made. This fact is demonstrated by studies of variations in costs, particularly costs of given farmers in different seasons.[5] But if a given farmer shifts from a high cost per unit position in one year to a low cost position relative to his neighbors in another season, his changed position is very likely to be the result of the fact that he has made important changes in operating his farm.

The cost phase is best dealt with by cost analyses of several farm units as homogeneous in nature as is possible under the conditions prevailing in connection with a given cost analysis. In California such studies are called "Enterprise Efficiency Studies." [6] Studies of this type are extremely helpful in revealing those practices which prove to be the most efficient and practical for a given community. In order to derive such information from experience on a given farm it is readily conceivable that it would require a life time to do so, to say nothing about technical changes that may occur in the meantime to upset given relationships. Historically speaking, significant changes in important equipment occur through a relatively short time.[7] To use the results of enterprise efficiency analyses most effectively they must be used in the light of outlook statements dealing with probable future prices. For example, if a given farm will under wise management yield 20 hundredweight (in California it is customary to measure yields in weight) of wheat per acre and 25 hundredweight of barley at the same cost per acre, the gross return per acre becomes the same if the price at the farm is $1.00 per hundred pounds for wheat and 80 cents per hundred pounds for barley. If the farmer at seeding time obtains some very carefully considered evidence that indicates that the price of barley at the time he harvests is likely to be much less than an 8 to 10 ratio as compared with wheat, it will be advisable for him to put his land into wheat or at least increase his wheat acreage and

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5 Bennett, M. K. Farm Cost Studies in the United States, Their Development, Applications, and Limitations. Food Research Institute, Stanford University, California. 1928. Chapter 5.

6 Fluharty, L. W., and F. R. Wilcox. Enterprise Efficiency Studies on California Farms. California Agr. Ext. Service Circ. 24. College of Agriculture, University of California. March, 1930.

7 Rogin, Leo. The Introduction of Farm Machinery in its Relation to the Productivity of Labor in the Agriculture of the United States. University of California Publications in Economics, Vol. 9. University of California Press, Berkeley, 1931.

decrease his barley acreage. As long as the yields for the two grains on his farm tend to run in the ratio of 8 to 10 he is interested in learning when the selling price of the grain is likely to deviate from an 8 to 10 ratio. Also if an absolute increase in price is indicated, the farmer may be led to decide that it would be profitable to try to obtain higher yields as long as the added cost of obtaining the higher yield did not promise to equal or exceed the probable increase in price. On the other hand, the price outlook may be so unfavorable as to indicate to a given farmer that he cannot hope for a return above costs under cost conditions most favorable on his farm. In that case he may be able to determine a satisfactory alternative or to avoid unnecessary loss.

When agricultural outlook statements were first undertaken they were made by the Federal Bureau of Agricultural Economics and designed to be national in scope. But general statements which properly applied to large areas did not necessarily apply to all areas. Particularly was this true of such areas as California which, because of its special climatic conditions and its location with respect to its primary markets, is very much in the nature of a separate empire in its relation to the large agricultural regions of the United States. "The Economic Law of Market Areas" as put forth by Professor Fetter illustrates the problem. The law of market district limits, as he states it, is as follows: "The boundary line between the territories tributary to two geographically competing markets for like goods is a hyperbolic curve. At each point on this line the difference between freights from the two markets is just equal to the difference between the market prices, whereas on either side of this line the freight difference and the price difference are unequal. The relation of prices in the two markets determines the location of the boundary line: the lower the relative price the larger the tributary area." [8] For various reasons, among which are lack of perfect information with respect to costs, prices, and grades, the boundary lines are not sharply defined but tend to overlap, and because there are many markets involved in the case of each commodity connected segments of these hyperbolic boundary lines take on the appearance of contour lines describing the topography of a given area. A case in point is an "isograph" map of potato prices presented by Dr. Working in a study entitled "Factors influencing price differentials between potato markets." [9]

As market prices change in relation to each other due to demand and supply conditions, the courses of these "isolines" describing equal price points change. For example, as will be shown in a latter section, the price of barley in California is sometimes on a deficit basis and sometimes on a surplus basis. Therefore, a separate outlook statement

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[8] Fetter, F. A. The Economic Law of Market Areas. Quarterly Journal of Economics 28:3;520. May, 1924.

[9] Working, Holbrook. Factors influencing price differentials between potato markets. Journal of Farm Economics 7:4;378. October, 1925.

for barley needs to be prepared for California because the national outlook for barley does not specifically apply. To prepare such a statement it is necessary through analysis to see how California fits into the general economic scheme pertaining to barley.[10]

III. *Nature of Regional Outlook statements:*

Once regional economic studies are prepared it becomes possible to make reasonable estimates as to what may be expected with reference to price during a coming crop year. A specific illustration of such a statement covering California barley and wheat is given below. Unlike a similar statement for any other section of the United States it was issued by the California Agricultural Extension Service in October because the seeding period for California ordinarily extends from November 1 to February 1. The statement as issued follows on Page 8:

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[10] Braun, E. W. Barley, California Agr. Exp. Sta. Bul. 512. April, 1931. (Series on California Crops and Prices.)

CALIFORNIA BARLEY AND WHEAT OUTLOOK

E. W. BRAUN *

Summary

The price of barley in California this season (1932) is low relative to the local price of wheat and low relative to the price of barley in the principal grain markets of the middle west. In formation now available indicates that the California carryover of barley into 1933 will be very large. Unless, therefore, the 1933 barley crop is unusually short the price of barley for 1933 in this state is likely to remain low relative to the local price of wheat and relative to barley in other markets.

The situation this year arises from the fact that the California barley supply is large as compared to its market outlets. Barley supplies in California were 25 per cent above normal at the beginning of the season. Barley exports of recent months indicate that the export volume for 1932-33 is likely to be materially above the 105,000 ton volume exported last season; but it is doubtful whether the export volume for this season will exceed 200,000 tons. During 1926-1930 exports averaged 248,000 tons. Requirements of barley for feed in this state during the coming year are little if any above normal. Hog numbers have increased but cattle numbers have decreased.

A carryover of California barley into 1933 of approximately 3 or 4 times a normal amount is in prospect. If this proves to be the case a normal barley crop in 1933 of 737,000 tons from 1,050,000 acres would again bring supplies to approximately 1,000,000 tons. A supply as large as this would almost certainly be accompanied by local barley prices low relative to the local price of wheat and low relative to the price of barley in other markets.

The price of wheat in California is determined by factors outside of the state. Unless international trade in wheat improves or a strong speculative demand develops, no material change in price is to be expected. The wheat supply situation in the United States is somewhat less distressing from a price standpoint than a year ago, and a further reduction in winter wheat acreage for 1933 harvest in the great plains sections is in prospect. World supplies, however, are about the same as for the past two years. A reduction in the world wheat acreage is not to be expected.

If a general improvement in business conditions takes place throughout the world, wheat prices are likely to be favorably affected by such improvement before the improvement is reflected in the price of barley.

* Extension Specialist in Agricultural Economics and Associate on the Giannini Foundation.

California Barley Outlook

The price of barley in California this year (1932) is low relative to the price of wheat in California markets, and is low relative to the price of barley in the grain markets of the middle west. The San Francisco price of feed barley has in recent months (June-September) averaged 64 cents a hundred as compared with $1.05 a hundred for milling wheat. When expressed as a ratio this is equal to 61 per cent. The average ratio since 1920 is 71 per cent. Average prices of feed barley and milling wheat at San Francisco since 1920 are given in Table 1. The San Francisco price of feed barley since June 1 has averaged 4 cents under the price of feed barley at Minneapolis, whereas ordinarily the San Francisco price is considerably above the Minneapolis price. Generally, the balance between California barley production on the one hand, and domestic feed requirements and export volume on the other, has been such as to place California on a deficit basis for feed barley. As a result, the California price has tended to be above the price of barley in surplus areas. Occasionally domestic supplies have exceeded domestic requirements and export demand. When this occurs the California price is placed on a surplus basis. A comparison of the San Francisco price and the Minneapolis price is given in table 1. California barley production, carryover, exports, and domestic use, beginning with 1921-22, are given in Table 2. In seasons such as 1924 and 1931, when the supply of barley was short, the price of barley nearly equalled the price of wheat. In 1924 the

TABLE 1

PRICES OF FEED BARLEY AND MILLING WHEAT AT SAN FRANCISCO AND FEED BARLEY AT MINNEAPOLIS. JUNE-DECEMBER AVERAGES, 1920-1932

(Dollars per hundred)

June to December inclusive	San Francisco feed barley	San Francisco milling wheat	San Francisco price ratio barley, to wheat	Minneapolis feed barley
	dollars	*dollars*	*per cent*	*dollars*
1920	2.24	3.53	63	2.13
1921	1.24	2.00	62	1.14
1922	1.32	1.98	67	1.17
1923	1.39	1.86	75	1.23
1924	2.21	2.57	86	1.68
1925	1.52	2.74	54	1.48
1926	1.24	2.32	53	1.34
1927	1.86	2.25	83	1.64
1928	1.58	2.15	74	1.47
1929	1.54	2.16	71	1.27
1930	1.04	1.60	65	1.03
1931	1.10	1.20	92	.97
1932	.64*	1.05*	61	.68*

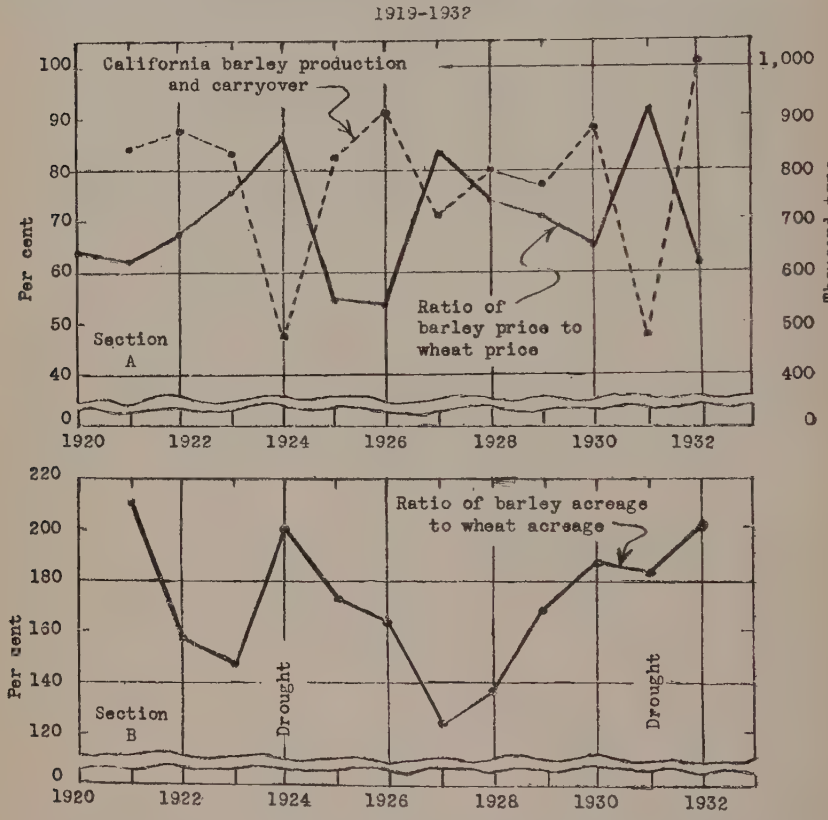
* Four months. June-September.

Source of data: 1920-1930: Compiled from records of the San Francisco Grain Trade Association.
1931-1932: Compiled from the Pacific Rural Press. Weekly issues.

price of feed barley from June to December, inclusive, averaged $2.21 a hundred and the price of milling wheat averaged $2.57 a hundred, which when expressed as a ratio is equal to 86. In 1927 the ratio was 83 and in 1931 it was 92, or almost equal to wheat.

FIGURE 1

RATIO OF BARLEY PRICE TO WHEAT PRICE AND CALIFORNIA BARLEY PRODUCTION PLUS CARRYOVER, AND RATIO OF BARLEY ACREAGE TO WHEAT ACREAGE IN CALIFORNIA



Section A of the above diagram represents the price of barley expressed as a per cent of the price of wheat and the supply of California barley at the beginning of each season.

Section B represents the barley acreage of California expressed as a per cent of the wheat acreage; for example, in 1932 the barley acreage was equal to 200 per cent or twice that of wheat. Acreage adjustments warranted by price tend to take place in each of two years following. Acreage adjustment warranted by the low prices in 1925 and 1926 were not completed until 1928. Thus as complete an adjustment in acreage for harvest as is warranted by the present price relationship is not likely to occur in 1933.

A study of the price of feed barley relative to the price of milling wheat at San Francisco, as illustrated in Figure 1, reveals that this relation is apparently greatly influenced by the supply of barley in California.

TABLE 2

CALIFORNIA BARLEY PRODUCTION, CARRYOVER, EXPORTS AND DOMESTIC CONSUMPTION

1921-22—1932-33

Crop-year	Production	Carryover June 1	Production plus carryover	Exports July-June	Domestic use
	1,000 tons	*1,000 tons*	*1,000 tons*	*1,000 tons*	*1,000 tons*
1921-22	713	121	834	423	364
1922-23	826	47	873	377	458
1923-24	794	38	832	248	527
1924-25	402	57	457	209	216
1925-26	781	32	813	314	369
1926-27	778	130	908	285	579
1927-28	656	44	700	200	476
1928-29	764	24	788	251	467
1929-30	699*	70	769	262	423
1930-31	788*	84	872	240	495
1931-32	330*	137	467	106	298
1932-33	948†	63	1,011		

* See crop report of May 11, 1932.

† See crop report of September 10, 1932. Bushels converted to tons at 41.66 bushels per ton.

Sources of data: Production from California Crop Reports.
Carryover from Grain Trade Association, San Francisco Chamber of Commerce.
Exports from U. S. Dept. Commerce, Bur. Foreign and Domestic Commerce, San Francisco office. Bushels converted to tons at 41.66 bushels per ton.

In seasons of large supplies of barley, relative to requirements, the price of barley is low relative to wheat. During the seasons of 1925 and 1926 the ratios were very low, 54 and 53, respectively. The crops were not unduly large but feed requirements had been reduced. Reduced feed requirements were occasioned by a 150,000 head reduction in beef cattle numbers in California. This was partly due to the slaughter made necessary by foot-and-mouth disease, and in part due to a beef-cycle decline in beef cattle numbers. Numbers of hogs in California were also declining in 1925 and 1926. Barley exports in 1925 and 1926 were above average but not sufficiently above average to cause a shortage of feed barley.

This season (1932) the price of barley at San Francisco is again low relative to the price of wheat because California barley supplies exceed domestic feed requirements and export demand. The price ratio has in recent months averaged 61 per cent. Following the harvest of the current year, supplies reached an unusually large volume of slightly over 1,000,000 tons, which is 25 per cent above normal. This large supply is a result of a very large crop of 948,000 tons, as compared with a five year 1926-1930 average of 737,000 tons. Carryover in the 1932 season amounted to 63,000 tons, which is approximately normal. Export volume of California malting barley, though much greater now than during the months immediately following England's

abandonment of the gold standard [11] (see table 3), is still not equal to the volume exported during the same months of the period 1926-1930. In view of the low price of barley, it is probable that exports for 1932-33 may reach 200,000 tons. Domestic utilization for feed and seed during the five years 1926-1930 has averaged 428,000 tons. At present low prices it is probable that domestic utilization may reach 500,000 tons. If this proves to be the case. approximately 700,000 tons will be disposed of, leaving a prospective carryover into 1933 of about 300,000 tons.

TABLE 3

BARLEY EXPORTS FROM SAN FRANCISCO BY MONTHS AVERAGE 1926-1930 AND MONTHLY SINCE JULY, 1930

Month	Average 1926-1930	1930-31	1931-32	1932-33
	tons	*tons*	*tons*	*tons*
July	29,172	13,057	14,572	15,988
August	43,203	26,655	23,135	13,146
September	24,729	29,140	14,502	21,072*
October	23,043	27,070	13,389	
November	18,622	20,128	3,588	
December	17,089	19,768	3,873	
January	12,323	14,656	2,582	
February	18,854	20,108	2,327	
March	17,654	16,975	2,477	
April	9,982	17,315	2,386	
May	17,425	17,942	12,195	
June	16,276	16,997	10,783	
Total	248,372	239,811	105,809	

* Preliminary.

Source of data: U. S. Dept. of Commerce, Bur. of Foreign and Domestic Commerce. San Francisco Customs District. Mimeographed reports. Bushels converted to tons at 41.66 bushels per ton.

If the acreage for the 1933 harvest is equal to the 1926-1930 average of 1,050,000 acres and average yields are obtained, a harvest of about 737,000 tons may be expected. With a large carryover this would again place supplies above $1,000,000 tons, an amount almost certain to exceed the combined requirements of exports and domestic feed for another season.

It is unlikely that the price of barley at San Francisco will return to a normal relationship relative to local wheat prices, and relative to barley prices in other markets unless the California barley crop of 1933 is 550,000 tons or less. This estimate allows for a normal carryover of 70,000 tons. With average yields, 750,000 acres will produce 550,000 tons. The California Cooperative Crop Reporting Service estimates that 1,246,000 acres were harvested in 1932. The average acreage

[11] England abandoned the gold standard September 21, 1931; a portion of the October exports had been negotiated before that date.

during the past decade, excluding the very dry years of 1924 and 1931, was 1,050,000 acres. The ratio of barley acreage to wheat acreage harvested in California indicates that when the price of barley goes to levels low relative to wheat in California, as it did in 1920 and 1921 and 1925 and 1926, acreage adjustment takes place through a period of two years following. The ratio of California barley acreage to wheat acreage is given in Table 4 and is shown in Figure 1.

TABLE 4

BARLEY AND WHEAT ACREAGE HARVESTED IN CALIFORNIA, AND RATIO OF BARLEY TO WHEAT ACREAGE, 1921-1932

Year	Wheat acreage harvested	Barley acreage harvested	Ratio barley to wheat
	1,000 acres	*1,000 acres*	*per cent*
1921	557	1,188	210
1922	712	1,129	158
1923	748	1,095	147
1924	377	765	200
1925	603	1,050	174
1926	653	1,080	165
1927	812	994	122
1928	780	1,044	134
1929	633	1,066	167
1930	592	1,094	185
1931	456	820	182
1932	620	1,246	200

Source of data: California Cooperative Crop Reporting Service. Field Crop Reports.

Prices of feed grains in midwestern markets are likely to be higher in 1933 than in 1932 because low prices will tend to reduce acreages planted to feed grains. Furthermore, feed requirements in 1933 are likely to be greater than during the current year because of increased numbers of hogs. Low prices of feed grains this year are in part due to factors arising from the depression and in part to large supplies available this year. The following table gives the estimated production for 1932 of corn, oats, barley, and wheat for the United States, as compared with the production of 1931 and a five year average, 1924-1928 (see table 5). In all except wheat the 1932 production is appreciably above 1931, and in the case of corn and barley 1932 production is appreciably above the five year average. Prices of barley, corn, and oats at midwestern markets, given in table 6, have declined to a third of the 1924-1928 level.

TABLE 5

UNITED STATES PRODUCTION OF CORN, OATS, AND BARLEY IN 1932 COMPARED WITH 1924-1928 AVERAGE AND 1931
(Millions of bushels)

Crop	Five-year average 1924-1928	Production 1931	September estimate for 1932	Increase or decrease over 1931
	Millions	*Millions*	*Millions*	*Millions*
Corn	2,625	2,563	2,854	+ 291
Oats	1,277	1,112	1,245	+ 133
Barley	219	198	303	+ 105

Source of data: U. S. Dept. Agr., Bur. Agr. Econ. September Crop Report, 1932.

TABLE 6

PRICES OF FEED GRAINS IN EASTERN MARKETS
(Cents per bushel)

Crop	Season	Market	Average 1924-28	1929-30	1930-31	1931-32	1932-33
			Cents	*Cents*	*Cents*	*Cents*	*Cents*
Barley† 2	July-June	Minneapolis	89	58	47	48	31*
Corn† 3	Sept.-Aug.	Chicago	91	86	65	35	31†
Oats† 3	July-June	Chicago	47	44	33	23	18‡

* July-August.
† August average of Sept. Future.
‡ July.
Source of data: 1924-1931 U. S. Dept. Agr. Yearbook of Agriculture. 1932. 1932 Crops and Markets. Monthly issues.

In view of current low prices of feed grains, it is likely that acreages planted in 1933 will be decreased. The current low prices of feed grains are, however, a stimulus to the increase of livestock numbers, particularly hogs. Hog numbers in the United States on January 1, 1932, were 4,800,000 above the low 54,374,000 head in 1931. With price ratios still favorable to feeding, it is likely that hog numbers as of January 1, 1933, will show another increase. Unless business activity goes to lower levels, an improvement in feed grain prices at mid-west markets in 1933 as compared with 1932 may therefore be expected, but an equal improvement in the price of barley in California is not likely unless the 1933 barley crop in California is very short.

California Wheat Outlook

California is dependent upon outside sources for approximately one-half of its wheat supply.[12] Consequently the price movement of California wheat is determined by conditions outside of the state to a

[12] Braun, E. W., Wheat. Series on California crops and prices. Calif. Agr. Exp. Sta. Bul. 502:8. 1930.

much greater degree than is true in the case of barley. A large proportion of the wheat brought into California comes from the Pacific Northwest; the price of California wheat, therefore, moves more closely with the Portland price than it does with any other market in the United States. Portland in turn, because of its volume of white wheat exports to Europe, reflects changes in the world price of white wheat which is established at Liverpool. Annual average wheat prices at San Francisco, Portland, and Liverpool are given in Table 7. For the past ten years the San Francisco price has averaged 17 cents a hundred above Portland.

TABLE 7

WHEAT PRICES AT SAN FRANCISCO, PORTLAND, AND LIVERPOOL BY CROP YEARS 1921-1932

(Dollars per hundred)

Crop-year July-June	San Francisco milling	Portland Western White	Liverpool Australian White	British Parcels*
	dollars	*dollars*	*dollars*	*dollars*
1922-23	2.07	1.98	2.43	2.27
1923-24	1.87	1.72	2.12	2.02
1924-25	2.90	2.63	2.97	2.98
1925-26	2.61	2.48	2.92	2.83
1926-27	2.36	2.27	2.80	2.75
1927-28	2.34	2.20	2.67	2.57
1928-29	2.11	1.95	2.32	2.13
1929-30	2.12	1.93	2.27	2.17
1930-31	1.42	1.20	1.37	1.32
1931-32	1.22	.93	1.05	1.01
1932-33†	1.06	.83		

* Average price of all wheat sold at London and Liverpool.

† July-September.

Sources of data: San Francisco, 1921-1930. Compiled from Records of the San Francisco Grain Trade Association.

1931-1932. Compiled from Pacific Rural Press. Weekly issues. Portland, 1921-1932. Compiled from Portland Oregonian and the Commercial Review. Portland, Oregon.

Liverpool, 1921-1922. International Yearbook of Agricultural Statistics. 1924-25:380. 1925.

1923-1932. Food Research Institute. Wheat Studies. Stanford University, Annual and Quarterly Reviews.

The 1932 supply of wheat in the United States is materially less than in 1931. According to reports of the United States Department of Agriculture, the 1932 wheat production for the United States is placed at 715,000,000 bushels, which is 179,000,000 bushels under that of last year and 114,000,000 bushels under the five year average, 1924-1928. Domestic consumption for 1932-33 is estimated at 660,000,000 bushels. Carryover as of July 1, 1932, was 363,000,000 bushels as compared with 319,000,000 bushels in 1931. Any export volume, therefore, exceeding 55,000,000 bushels will decrease carryover in 1933 as compared to 1932. Total wheat exports, including flour, for the season beginning July, 1930, were 149,000,000 bushels and for 1931 exports totaled 126,000,000 bushels.

Total world wheat supplies are about the same as last year. Wheat production estimates for 1932 in the United States and Canada and the combined total of 34 Northern Hemisphere countries, with comparisons during recent years, are given in Table 8. The low prices of recent years have apparently tended to reduce acreage and production in the United States, but no reduction in production is yet apparent for the Northern Hemisphere as a whole. In the wheat importing countries of Continental Europe wheat production is being stimulated by means of import duties and milling restriction on foreign wheat. Probable future production in Russia is not at present predictable.

TABLE 8

WHEAT PRODUCTION IN 34 NORTHERN HEMISPHERE COUNTRIES, 1928-1932
(Millions of bushels)

Year	United States	Canada	34 Northern Hemisphere countries	World excluding Russia and China
	millions	*millions*	*millions*	*millions*
1928	926	567	3,309	3,999
1929	813	304	3,011	3,562
1930	858	421	3,142	3,821
1931	894	304	3,101	3,749*
1932*	715	467	3,119	

* Preliminary.

Sources of data: World production—U. S. Dept. Agr. Yearbook of Agriculture, 1932:585. 1932.
Production in United States, Canada, and 34 Northern Hemisphere Countries—U. S. Dept. Agr., Bur. Agr. Econ. World Wheat Prospects. Sept. 24, 1932, p. 4.

Southern Hemisphere production of the crop soon to be harvested in Australia and Argentina is likewise estimated to be about the same as last year.

Wheat acreage in the United States is declining, as shown in Table 9.

TABLE 9

WINTER WHEAT SOWN, AND WINTER AND SPRING WHEAT HARVESTED IN THE UNITED STATES, AVERAGE 1924-1928 AND ANNUALLY 1928-1932

Year	Winter wheat sown in fall	Winter wheat harvested	Spring wheat including Durum harvested	All wheat harvested
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*
Average 1924-1928	43,469	35,585	20,078	55,663
1928-29	43,340	40,580	22,091	62,671
1929-30	43,630	39,509	21,629	61,138
1930-31	43,149	41,363	13,936	55,299
1931-32	40,172	33,245	22,169	55,414
1932-33	39,805*			

* August, 1932, intentions to plant.

Sources of data: 1924-1929. U. S. Dept. Agr., Yearbook of Agriculture, 1932:579.
1930-1932. U. S. Dept. Agr., Bur. Agr. Econ. Crops and Markets.

The report on intentions to plant winter wheat this fall indicates another reduction in winter wheat acreage. Contraction in wheat acreage similar to that of the United States is not apparent in other important wheat producing countries. It would appear, therefore, that unless international trade in wheat improves or an important speculative demand for wheat appears, no major change in the price of wheat in 1933 as compared with 1932 is now to be expected. If a world wide improvement in business conditions occurs, it will stimulate international trade in wheat.

IV. *Nature of Regional Commodity Studies as a Background for Agricultural Outlook Statements:*

Outlook statements such as the foregoing could not be issued without the assistance of an analysis of the economic processes operative in connection with a given commodity in a given region. Particularly is this true for California because it is a region somewhat separate and with conditions markedly different from those of most other sections in the United States. Such analyses dealing with variations and trends in production, movement, utilization and prices of wheat, barley, and alfalfa with special reference to California follow: